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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte RICHARD R. WILSON, DOUGLAS R. OUDEKERK, DOUGLAS P. WILSON, KARLA M. FOGEL, and REBECCA NETH TOWNSEND[1]

Appeal 2015-004057
Application 12/950,569
Technology Center 3700

Before DONALD E. ADAMS, JEFFREY N. FREDMAN, and TIMOTHY G. MAJORS, *Administrative Patent Judges*.

PER CURIAM

DECISION ON APPEAL

This is an appeal under 35 U.S.C. § 134 involving claims to a stacked moisture sensing device which have been rejected as anticipated and obvious. We have jurisdiction under 35 U.S.C. § 6(b).

We affirm-in-part but designate the affirmances as new grounds of rejection. We also enter a new rejection for obviousness.

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[1] Appellants identify the Real Party in Interest as Covenant Ministries of Benevolence. (App. Br. 2.)

STATEMENT OF THE CASE

Appellants' invention "relates to stacked moisture sensing devices and their uses, such as for use in conjunction with absorbent undergarments and shipping packages." (Spec. ¶ 1.) More particularly, "[t]he stacked moisture sensing device is for monitoring the characteristics of moisture exposure to a person'[s] skin or to the contents of a package." (*Id.* at ¶ 45.)

Claims 1–5, 14, 16, and 23–27 are on appeal. Claim 1 is illustrative:

1. A stacked moisture sensing device comprising:

a. a first media-sensor arrangement comprising:

i. a first media layer having a first face, a second face, and a side edge extending between the first and second faces, the first media layer having a first hydrophilicity;

ii. a first moisture sensor embedded within the first media layer, the first moisture sensor being adapted to produce a first electrical signal when exposed to moisture;

b. a second media-sensor arrangement comprising:

i. a second media layer having a first face, a second face and a side edge extending between the first and second faces, the second media layer having a second hydrophilicity different than the first hydrophilicity; and

ii. a second moisture sensor, separate from the first moisture sensor, embedded within the second media layer, the second moisture sensor being adapted to produce a second electrical signal, independent from the first electrical signal, when exposed to moisture;

iii. wherein the second media-sensor arrangement is stacked upon the first media-sensor arrangement.

(App. Br. 28 (Claims App'x).)

The claims stand rejected as follows:[2]

I. Claims 1–4 and 16 under 35 U.S.C. § 102(b) as anticipated by Roe.[3]

II. Claims 5 and 23–27 under 35 U.S.C. § 103(a) over Roe and Song.[4]

III. Claim 14 under 35 U.S.C. § 103(a) over Roe, Song, and Clark.[5]

REJECTION I – ANTICIPATION

Appellants' independent claim 1 recites, among other things, "a first media-sensor arrangement" having "a first moisture sensor embedded within the first media layer, the first moisture sensor being adapted to produce a first electrical signal when exposed to moisture" and "a second media-sensor arrangement" having "a second moisture sensor, separate from the first moisture sensor, embedded within the second media layer, the second moisture sensor being adapted to produce a second electrical signal, independent from the first electrical signal, when exposed to moisture," "wherein the second media-sensor arrangement is stacked upon the first media-sensor arrangement." (App. Br. 28 (Claims App'x).)

Independent claim 16 is similar to claim 1, but is drawn to "[a] urinary continence monitoring system" with the stacked layers and sensors and

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[2] Appellants do not appeal the rejection of claims 6–8, 10, 12–13, 15, 17, and 21. (*See* App. Br. 4.)
[3] Roe et al., US 6,093,869, issued July 25, 2000.
[4] Song et al., US 2010/0145294 A1, published June 10, 2010.
[5] Clark, US 5,843,254, issued Dec. 1, 1998.

further recites "an absorbent undergarment having a pass through layer and an absorbent layer." (App. Br. 30–31 (Claims App'x).)

The Examiner finds that Roe teaches

> a stacked moisture sensing device (20) comprising multiple electrical (col. 11, lines 25 – 28), moisture (col. 11, lines 1 – 8) sensors (60) configured for attachment to either an absorbent undergarment or to a shipping package that may be positioned (i.e., stacked) on multiple surfaces of an article as set forth in col. 12, line 54 to col. 13, line 24. The topsheet, backsheet, core, etc. will each have a different (i.e., first, second, third, etc.) hydrophilicity based on the fact that the layers are comprised of different materials as set forth throughout the disclosure. Likewise, the sensors are considered as separate from one another due to the fact that they are incorporated into separate layers. Roe also discloses that the sensors may detect different signals as set forth in col. 13, lines 25 – 29.

(Ans. 2–4.)

The issue with respect to this rejection is: Does the evidence of record support the Examiner's finding that Roe anticipates claims 1 and 16?

Findings of Fact

1. Roe teaches

> Disposable articles such as diapers, incontinent briefs, diaper holders and/or inserts, training pants, feminine hygiene garments, tampons, and the like, having a responsive system. The article includes a sensor that detects an input, an actuator that is adapted to perform a responsive function upon the input, and a feedback control loop in which the actuator is adapted to perform the responsive function upon the input when the sensor detects the input.

(Roe Abstract; *see also* Ans. 2–4.)

2. Figure 1 of Roe is reproduced below:

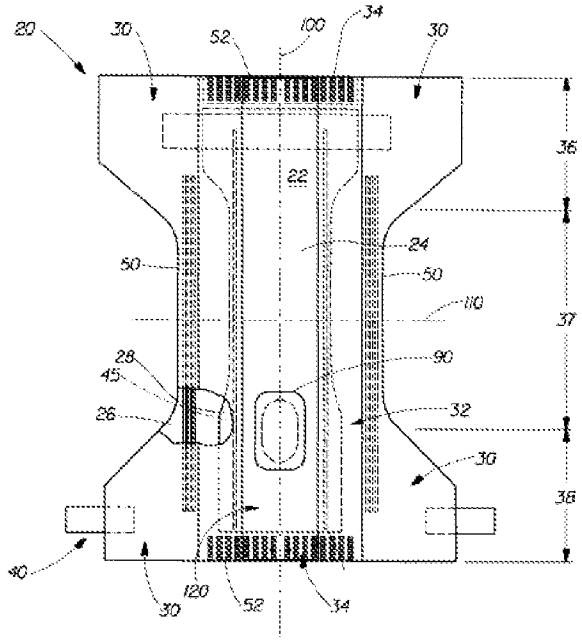

Fig. 1

Figure 1 shows an "article **20** preferably comprises a liquid pervious topsheet **24**; a liquid impervious backsheet **26**; [and] an absorbent core **28**." (Roe 4:4–6; *see also* Ans. 2–4.)

3. Roe teaches that

> [t]he topsheet **24** is preferably positioned adjacent the body surface **47** of the absorbent core **28** and may be joined thereto and/or to the backsheet **26** by any attachment means known in the art. Suitable attachment means are described above with respect to means for joining the backsheet **26** to other elements of the article **20**. In one preferred embodiment of the present invention, the topsheet **24** and the backsheet **26** are joined directly to each other in some locations and are indirectly joined together in other locations by directly joining them to other elements of the article **20**.

(Roe 6:18–27; *see also* Ans. 2–4, 10.)

4. Roe teaches that

> [t]he article **20** preferably also includes at least one sensor **60**. . . . Sensors include anything that responds to one or more specific inputs. Examples of inputs that may be detected by the sensor of the present invention include, but are not limited to, attitude, pressure, motion, moisture, enzymes, bacteria, pH, conductivity, resistance, capacitance, inductance, or other chemical, biochemical, biological, mechanical or electrical properties and/or components of bodily wastes. . . . An electrical or biological sensor may, for example, detect an elimination of bodily waste event such as a defecation, urination or discharge of menses by sensing a component of the waste.

(Roe 10:61–11:17; *see also* Ans. 2, 4.)

5. Roe teaches that

> [t]he sensor **60** may be disposed in and/or operatively connected to any portion of a disposable article that will be exposed to the input that the sensor is designed to detect. . . . The sensor **60** may be separate from and operatively connected to another portion of the sensor **60**, another sensor **60**, an actuator **70**, a controller **80** or some other portion or component of the article **20**.

(Roe 12:54–63; *see also* Ans. 2, 4.)

6. Roe teaches that

> [i]n article **20**, for example, the sensor **60** may be located in the front waist region **36**, the rear waist region **38** or the crotch region **37** of article **20**, and may be integral with, disposed adjacent to, joined to, or comprise a portion of the chassis **22**, the topsheet **24**, the backsheet **26**, the absorbent core **28**, side panels **30**, leg cuffs **32**, a waist feature **34**, a fastening system **40**, the longitudinal **50** or end **52** edges, etc. . . . The sensor **60** may be completely contained within the article such as article **20** or may have a receiving portion located in the article such that it will come into contact with the desired input and another portion such as a transmitting portion located either in the article or outside the article.
>
> . . .

> The sensor **60** may further comprise a sensing "system" including two or more sensors, each of which may detect the same or different signals from the same or different sources.

(Roe 13:4–27; *see also* Ans. 2–4.)

DISCUSSION

We are not persuaded that the Examiner has established by a preponderance of the evidence that claims 1 and 16 are anticipated by Roe.

Instead, we agree with Appellants that "[a]s Roe does not actually present an actual embodiment with such a combination of features," the Examiner's assertion "reflects creating a combination out of pieces and parts of the disclosure of Roe." (Reply Br. 3.) In an anticipation rejection, "it is not enough that the prior art reference . . . includes multiple, distinct teachings that . . . [an ordinary] artisan might somehow combine to achieve the claimed invention." *Net MoneyIN, Inc. v. VeriSign, Inc.*, 545 F.3d 1359, 1371 (Fed. Cir. 2008) (citation omitted). Rather, the reference must "clearly and unequivocally disclose the claimed [invention] or direct those skilled in the art to the [invention] without *any* need for picking, choosing, and combining various disclosures not directly related to each other by the teachings of the cited reference." (*Id.* (citation omitted))

NEW GROUND OF REJECTION

Although we conclude that the Examiner has not adequately shown that Roe anticipates claims 1 and 16, we conclude that these claims would have been obvious over Roe.

Roe teaches an "article **20** preferably comprises a liquid pervious topsheet **24**; a liquid impervious backsheet **26**; [and] an absorbent core **28**." (FF 2.) Roe teaches that "[t]he topsheet **24** is preferably positioned adjacent the body surface **47** of the absorbent core **28** and may be joined thereto

and/or to the backsheet **26** by any attachment means known in the art." (FF 3.) Roe further teaches that "[t]he article **20** preferably also includes at least one sensor **60**." (FF 4.) Roe also teaches that

> [t]he sensor **60** may be disposed in and/or operatively connected to any portion of a disposable article that will be exposed to the input that the sensor is designed to detect. . . . The sensor **60** may be separate from and operatively connected to another portion of the sensor **60**, another sensor **60**, an actuator **70**, a controller **80** or some other portion or component of the article **20**.

(FF 5.) Roe further teaches that

> [i]n article **20**, for example, the sensor **60** may be located in the front waist region **36**, the rear waist region **38** or the crotch region **37** of article **20**, and may be integral with, disposed adjacent to, joined to, or comprise a portion of the chassis **22**, the topsheet **24**, the backsheet **26**, the absorbent core **28**, side panels **30**, leg cuffs **32**, a waist feature **34**, a fastening system **40**, the longitudinal **50** or end **52** edges, etc.

(FF 6.) Roe also teaches that "[t]he sensor **60** may further comprise a sensing 'system' including two or more sensors, each of which may detect the same or different signals from the same or different sources." (FF 6.) It would have been obvious to modify Roe's device to have "the second media-sensor arrangement [] stacked upon the first media-sensor arrangement" as claimed in order to "respond[] to one or more specific inputs" such as moisture and components of bodily wastes. (*See* FF 4.)

While an anticipatory reference under 35 U.S.C. § 102 "must clearly and unequivocally . . . direct those skilled in the art . . . without any need for picking, choosing, and combining various disclosures", *Arkley* found that "[s]uch picking and choosing may be entirely proper in the making of a 103, obviousness rejection, where the applicant must be afforded an opportunity to rebut with objective evidence any inference of obviousness." *In re*

Arkley, 455 F.2d 586, 587–588 (CCPA 1972). As reaffirmed in *KSR*, "[t]he combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results." *KSR Int'l Co. v. Teleflex Inc.,* 550 U.S. 398, 416 (2007). "If a person of ordinary skill can implement a predictable variation, § 103 likely bars its patentability." *Id.* at 417. Here, Roe's teachings regarding the different layers, each with a sensor, that are arranged adjacent to each other, would yield predictable results of a system having a stacked media-sensor arrangement that can detect moisture and other components of bodily wastes, including the degree of these samplings — for example, reflecting the extent of soiling in the multiple layers, which would be desirable information for the parent or caregiver.

Thus, under the provisions of 37 C.F.R. § 41.50(b), we enter the following new ground of rejection: claims 1 and 16 are rejected under 35 U.S.C. § 103 as obvious over Roe.[6]

We address below Appellants' arguments that remain relevant to the obviousness rejection of claims 1 and 16 under the New Ground of Rejection.

Appellants contend that "Roe entirely fails to disclose any structure regarding moisture sensors, much less the claimed discrete stacked media layers within which moisture sensors are embedded." (App. Br. 14.)

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[6] Entry of a new grounds by the Board is discretionary under 37 C.F.R. § 41.50(b). We do not weigh the patentability of claims 2–4 with respect to this rejection and leave them to the Examiner to address should there be further prosecution.

This argument is unpersuasive because Roe teaches that "[t]he article **20** preferably also includes at least one sensor **60**. . . . Sensors include anything that responds to one or more specific inputs. Examples of inputs that may be detected by the sensor of the present invention include, but are not limited to, attitude, pressure, motion, moisture, ..." (FF 4). Roe teaches that

> [i]n article **20**, for example, the sensor **60** may be located in the front waist region **36**, the rear waist region **38** or the crotch region **37** of article **20**, and may be *integral with*, disposed adjacent to, *joined to, or comprise a portion of* the chassis **22**, the topsheet **24**, the backsheet **26**, the absorbent core **28**, side panels **30**, leg cuffs **32**, a waist feature **34**, a fastening system **40**, the longitudinal **50** or end **52** edges, etc. . . .

(FF 6 (emphasis added).) These teachings of Roe are reasonably understood as encompassing sensors "embedded within" various media layers, such as the topsheet, absorbent core, and backsheet.

Appellants argue that "[c]laim 16 clearly claims an absorbent undergarment having a pass through layer and an absorbent layer and also distinctly claims a separate stacked moisture sensing device having its own first and second stacked media layers." (Reply Br. 4).

We are not persuaded. Roe teaches "[d]isposable articles such as diapers, incontinent briefs, diaper holders and/or inserts, training pants, feminine hygiene garments, tampons, and the like, having a responsive system." (FF 1; *see also* FF 2 (depicting an arrangement with topsheet, an absorbent core, and a backsheet); *see also* Roe at 6:29–31 ("at least a portion of the topsheet 24 is liquid pervious, permitting liquids to readily penetrate through its thickness.").)

REJECTION II – OBVIOUSNESS

The Examiner finds that Song teaches "a media layer in the shape of a disk as set forth in figures 1 and 2C." (Ans. 5.)

The Examiner concludes that it would have been obvious to "provide the article of Roe with disk shaped media layers as taught by Song because the use of such provides a sufficiently large surface to enable a liquid sample to contact the surface in sufficient amounts to wet the deposition zone thoroughly as taught by Song in [0035]." (*Id.*)

The issue with respect to this rejection is: Does the evidence of record support the Examiner's conclusion that Roe and Song render the claims obvious?

Findings of Fact

7. Song teaches that "[a] sensor according to the present invention can take the form of a variety of shapes or designs. The face of the sensor or the deposition zone that is nearer to the user can have either an octagonal, rectangular, square, round, oval, ... shape." (Song ¶ 35; *see also* Ans. 5.)

DISCUSSION

Claim 5:

Claim 5 recites "each media layer is in the shape of a disk." (App. Br. 29 (Claims App'x).)

Appellants contend that "modifying article 20 of Roe to be in the shape of a disk would result in an article unusable for any of the purposes discussed in Roe." (App. Br. 19; *see also* Reply Br. 4–5.)

Appellants do not, however, provide any persuasive arguments or evidence to show that modifying Roe's sensor "to be in the shape of a disk would result in an article unusable." *See In re Geisler,* 116 F.3d 1465, 1470

(Fed. Cir. 1997) ("[A]ttorney argument [is] not the kind of factual evidence that is required to rebut a prima facie case of obviousness") (citations omitted). We thus agree with the Examiner that it would have been obvious to incorporate media layers having disk shapes.

Claims 23–27:

Claim 23 recites "the absorbent undergarment further comprises indicia, separate from the stacked moisture sensing device, for identifying the location of where the at least one stacked moisture sensing device is to be located on the absorbent undergarment." (App. Br. 32 (Claims App'x).)

The Examiner finds that "Song teaches a urinary continence monitoring system wherein the absorbent undergarment further comprises an indicia to indicate[] the signal as set forth in [0009]," and concludes that it would have been obvious to "provide the article of Roe with the indicia as taught by Song as a means to show/indicate the visually observabl[e] symbol as taught by Song in [0009]." (Ans. 6.)

The Examiner further concludes that "it would have been obvious to provide the signal separately as claimed since it has been held that the mere separation of elements disclosed as integral or combined is within the level of ordinary skill in the art." (*Id.*) The Examiner also concludes that it would have been obvious to

> modify the indicia as desired to relay the desired information since the general concept of providing indicia material has been provided by the prior art device. The change in the type of information that the indicia provides is within the level of ordinary skill in the art. Further, the mere duplication of essential working parts of a device is within the level of ordinary skill in the art.

(Id. at 7.)

The Examiner asserts that "the indicia is considered to represent printed matter and does not provide a patentable distinction from the prior art since the printed matter is not functionally related to the article." (*Id.* at 13.)

We are not persuaded that the Examiner has met the burden to establish by a preponderance of the evidence that claim 23 would have been obvious. "[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." *In re Kahn,* 441 F.3d 977, 988 (Fed. Cir. 2006). Here, the Examiner has not sufficiently explained why the indicia should be separated from the sensor. Moreover, we are unpersuaded that the indicia lack the requisite functional relationship with the substrate; as such, the indicia may be the basis for distinguishing claim 23 over the art of record. *In re DiStefano*, 808 F.3d 845, 848 (Fed. Cir. 2015) (discussing the test for determining whether a limitation claims printed matter). As Appellants explain,

> the claimed indicia are very much functionally related to the article. In fact, claim 23, specifically states the functionality of the indicia which is "for identifying the location of where the at least one stacked moisture sensing device is to be located on the absorbent undergarment." Thus, a functional relationship clearly exists between the claimed indicia, indicia pattern, and multiple indicia patterns in [the] claims.

(Reply Br. 5).

Finally, with this functional relationship, the indicia of Song appears to be associated with the presence of liquid in the absorbent article, and does not appear to have any necessary association with a moisture sensor.

For the reasons above, the rejection of claim 23 is reversed. So too, we reverse the rejection of claims 24–27 because of their dependencies from claim 23.

REJECTION III – OBVIOUSNESS

The Examiner finds that Clark teaches "an edge protected layered absorbent product wherein the edge covering further comprises an adhesive coating as set forth in col. 5, lines 33 – 44," and "an edge covering further comprises a removable backing member for protecting the adhesive as set forth in col. 6, lines 31 – 38." (Ans. 7.)

The Examiner concludes that it would have been obvious to "provide the device of Roe in view of Song with the adhesive coating as taught by Clark in order to contribute to the attachment strength between the layers during use as taught by Clark in col. 5, lines 45 – 50." (*Id.*)

The issue with respect to this rejection is: Does the evidence of record support the Examiner's conclusion that Roe, Song, and Clark render the claim 14 obvious?

Findings of Fact

8. Figure 6 of Clark is reproduced below:

FIG. 6

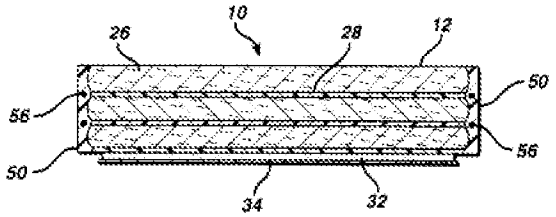

Figure 6 shows that "[t]he release strip **56** may be embedded into the[] protective material **50** by applying it to the periphery between adjacent, stacked pads." (Clark 6:31–33; *see also* Ans. 7.)

DISCUSSION

Claim 14 recites "the edge covering further comprises a removable backing member for protecting the adhesive." (App. Br. 30 (Claims App'x).)

We recognize, but are not persuaded by, Appellants' assertion that "the release strip 56 [of Clark] cannot be properly characterized as the claimed backing member. The release strip 56 of Clark is embedded completely behind the outer surface of the protective material 50 and is thus entirely incapable of protecting the material 50, as required by claim 14." (App. Br. 21.)

The claims do not require the removable backing member to be a separate member and not part of the adhesive. "[L]imitations are not to be read into the claims from the specification." *In re Van Geuns,* 988 F.2d 1181, 1184 (Fed. Cir. 1993) (citation omitted). *See also In re Self,* 671 F.2d 1344, 1348 (CCPA 1982) ("[A]ppellant's arguments fail from the outset because . . . they are not based on limitations appearing in the claims.").

Further, even if Clark's release strip is embedded within the protective material 50, it still protects at least some portion of the protective material. During prosecution, we give claim terms the broadest reasonable interpretation as understood by a person of ordinary skill in the art in light of the specification. *In re Morris*, 127 F.3d 1048, 1054 (Fed. Cir. 1997); *In re Am. Acad. Of Sci. Tech. Ctr.*, 367 F.3d 1359, 1364 (Fed. Cir. 2004) ("Construing claims broadly during prosecution is not unfair to the applicant . . . because the applicant has the opportunity to amend the claims to obtain more precise claim coverage.") (citation omitted).

CONCLUSION OF LAW

We agree with Appellants that the Examiner has not made out a prima facie case of anticipation based on Roe, and we therefore reverse the rejection of claims 1–4 and 16 under 35 U.S.C. § 102(b). However, we enter a new ground of rejection of claims 1 and 16 under 35 U.S.C. § 103(a) as being obvious over Roe.

We affirm the rejection of claim 5 under 35 U.S.C. § 103(a) over Roe and Song but designate the affirmance as a new ground of rejection so that Appellants may have an opportunity to respond.

We reverse the rejection of claims 23–27 under 35 U.S.C. § 103(a) over Roe and Song.

We affirm the rejection of claim 14 under 35 U.S.C. § 103(a) over Roe, Song, and Clark but designate the affirmance as a new ground of rejection so that Appellants may have an opportunity to respond.

TIME PERIOD FOR RESPONSE

This decision contains a new ground of rejection pursuant to 37 C.F.R. § 41.50(b). Section 41.50(b) provides "[a] new ground of rejection pursuant to this paragraph shall not be considered final for judicial review." Section 41.50(b) also provides:

> When the Board enters such a non-final decision, the appellant, within two months from the date of the decision, must exercise one of the following two options with respect to the new ground of rejection to avoid termination of the appeal as to the rejected claims:
>
> (1) *Reopen prosecution*. Submit an appropriate amendment of the claims so rejected or new Evidence relating to the claims so rejected, or both, and have the matter reconsidered by the examiner, in which event the prosecution

> will be remanded to the examiner. The new ground of rejection is binding upon the examiner unless an amendment or new Evidence not previously of Record is made which, in the opinion of the examiner, overcomes the new ground of rejection designated in the decision. Should the examiner reject the claims, appellant may again appeal to the Board pursuant to this subpart.
>
> (2) *Request rehearing*. Request that the proceeding be reheard under § 41.52 by the Board upon the same Record. The request for rehearing must address any new ground of rejection and state with particularity the points believed to have been misapprehended or overlooked in entering the new ground of rejection and also state all other grounds upon which rehearing is sought.

Further guidance on responding to a new ground of rejection can be found in the Manual of Patent Examining Procedure § 1214.01.

AFFIRMED-IN-PART; 37 C.F.R. § 41.50(b)